

# Second Workshop on Caching, Coherence, and Consistency (WC3 '02)

**June 22, 2002**

in conjunction with the

**16th Annual ACM International Conference on Supercomputing (ICS 2002)**

**New York, NY, USA**

<http://www.cs.rutgers.edu/~wc3>

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## Motivation

The workshop aims to bring together researchers from various areas of computer science whose work is related to data caching, coherence, and consistency. Interestingly, these three topics have been present in the research agenda of several independent communities that usually do not meet. The interest in these topics started in the computer architecture community and now pervades in parallel and distributed systems research. There have also been significant efforts to address caching, coherence, and consistency topics using compiler, operating system, or application support. The same topics have been addressed by the operating system community in the context of file and storage systems for both servers and mobile systems. More recently, the interest in these issues has been revived by the web technologies, including content and service replication and distribution. This workshop is the first forum to bring together people from all these areas of research by recognizing that their specific caching, coherence, and consistency issues have common denominators that can lead to fruitful discussions and exchange of ideas. The first edition of this workshop, which took place in conjunction with ICS'01, was very successful and the participants were particularly appreciative of the idea of bringing researchers from all these areas together. This workshop continued the tradition of the workshops on software DSM, which were associated with ICS in 1999 and 2000.

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## Scope

We solicit abstracts of original research including, but not limited to, the following areas:

- Memory caches (design, compiler, operating system, and runtime support)
- Cache modeling and analysis
- Consistency models

- File and storage caching
- Caching, coherence, and consistency in shared-memory multiprocessors
- Caching, coherence, and consistency in clusters
- Caching, coherence, and consistency in peer-to-peer systems
- Caching, coherence, and consistency in mobile systems
- Web caching, coherence, and consistency
- Web content replication and distribution

Authors are invited to submit 5-page extended abstracts that demonstrate original and unpublished research in the areas of data caching, coherence, and consistency. Abstracts should be emailed to [wc3@cs.rutgers.edu](mailto:wc3@cs.rutgers.edu) in postscript or pdf format. Accepted papers can be up to 10 pages long and will be published by the workshop. One of the authors will be required to attend the workshop and present the work.

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## Important Dates

May 08, 2002: Extended abstracts due. (extended from May 01)  
May 20, 2002: Notification sent to authors.  
June 10, 2002: Final papers due.

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## Advance Program

9:00 -- 9:15 Opening

9:15 -- 10:45 Session 1: Cache Replacement

- "Self-Correcting LRU Replacement Policies" by M. Kampe, P. Stenstrom, and M. Dubois (Chalmers University of Technology and Univ. of Southern California)
- "Cost-Sensitive Cache Replacement Algorithms" by J. Jeong and M. Dubois (Univ. of Southern California)
- "On Cache Replacement Policies for Servicing Mixed Data Intensive Query Workloads" by H. Andrade, T. Kurc, A. Sussman, E. Borovikov, and J. Saltz (University of Maryland) -- Best student paper award

10:45 -- 11:00 Break

11:00 -- 12:30 Invited Talk

- "Caching Architectures for Scalable Streaming Media Delivery" by Azer Bestavros (Boston University)

12:30 -- 2:00 Lunch

2:00 -- 3:20 Session 2: Shared Memory Systems

- "JVM for a Heterogeneous Shared Memory System" by D. Chen, C. Tang, S. Dwarkadas, and M.

Scott (University of Rochester)

- "Improving the Scalability of Shared Memory Systems Through Relaxed Consistency" by M. Schulz, J. Tao, and W. Karl (Technical University of Munchen)
- (Short paper) "Clustix: A Cluster Operating System Based on the Shared Memory Paradigm" by G. Utard and C. Morin (IRISA/INRIA)

3:20 -- 3:50 Session 3: Web Caching and Consistency

- "Basis Token Consistency: Extending and Evaluating a Novel Web Consistency Algorithm" by A. Bradley and A. Bestavros (Boston University) -- Best student presentation award

3:50 -- 4:10 Session 4: Cache Performance

- (Short paper) "Which Cache Parameters Matter to High Performance Computing" by D. Pressel (U.S. Army Research Laboratory)

4:10 -- 4:30 Break

4:30 -- 5:00 Discussion and Closing Remarks

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## Program Committee

Lorenzo Alvisi, University of Texas at Austin  
Eduard Ayguade, UPC, Spain  
Azer Bestavros, Boston University  
Ricardo Bianchini, Rutgers University (co-chair)  
Enrique V. Carrera, Rutgers University  
John Carter, University of Utah  
Michel Dubois, University of Southern California  
Babak Falsafi, Carnegie Mellon University  
Liviu Iftode, University of Maryland (co-chair)  
Vijay Karamcheti, New York University  
Darrell Long, University of California at Santa Cruz  
Christine Morin, IRISA, France

## Workshop Organizers

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**Contact**

Please, send any questions or comments about the workshop to [wc3@cs.rutgers.edu](mailto:wc3@cs.rutgers.edu).

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